

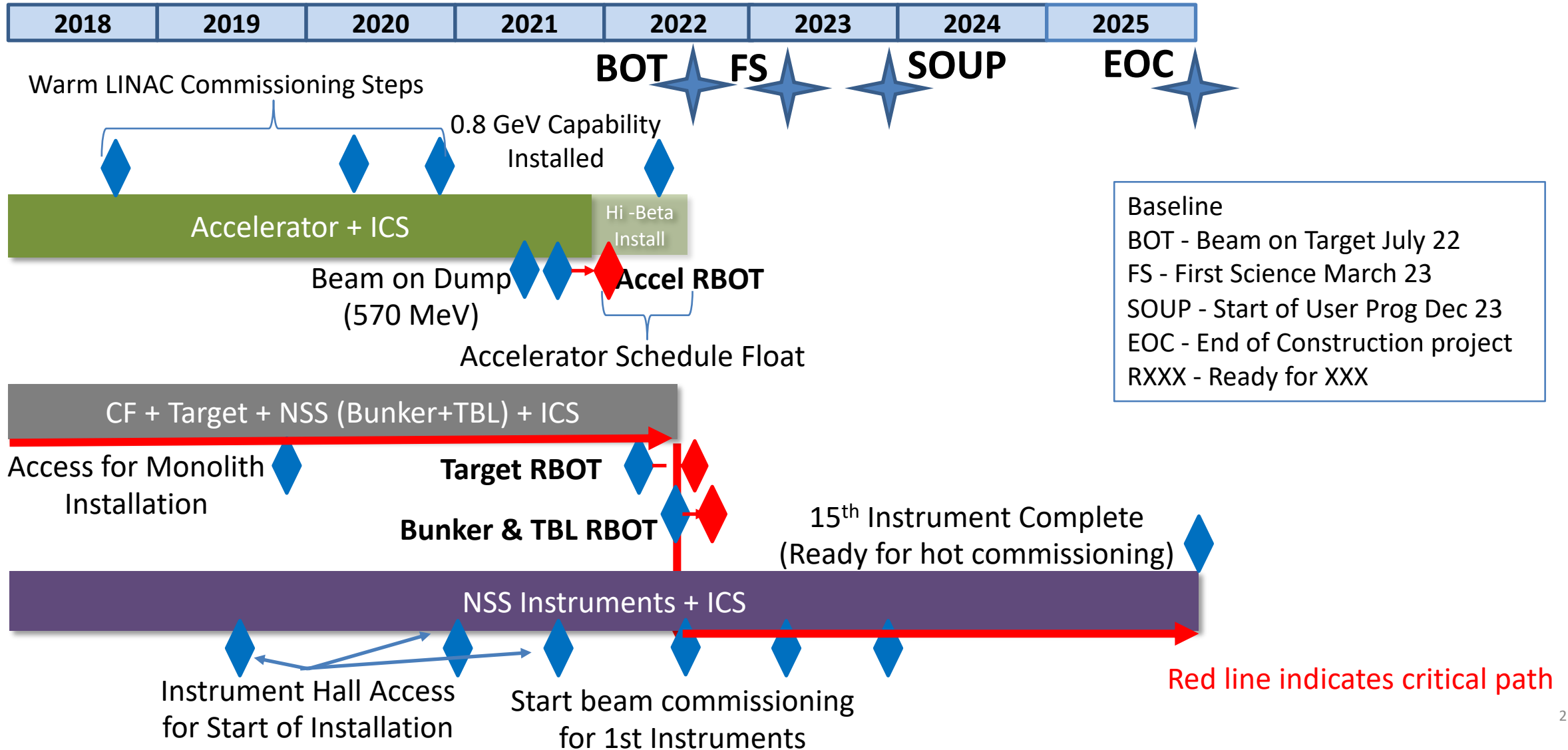
# Project Schedule CSNS

Mark Anthony  
Project Director

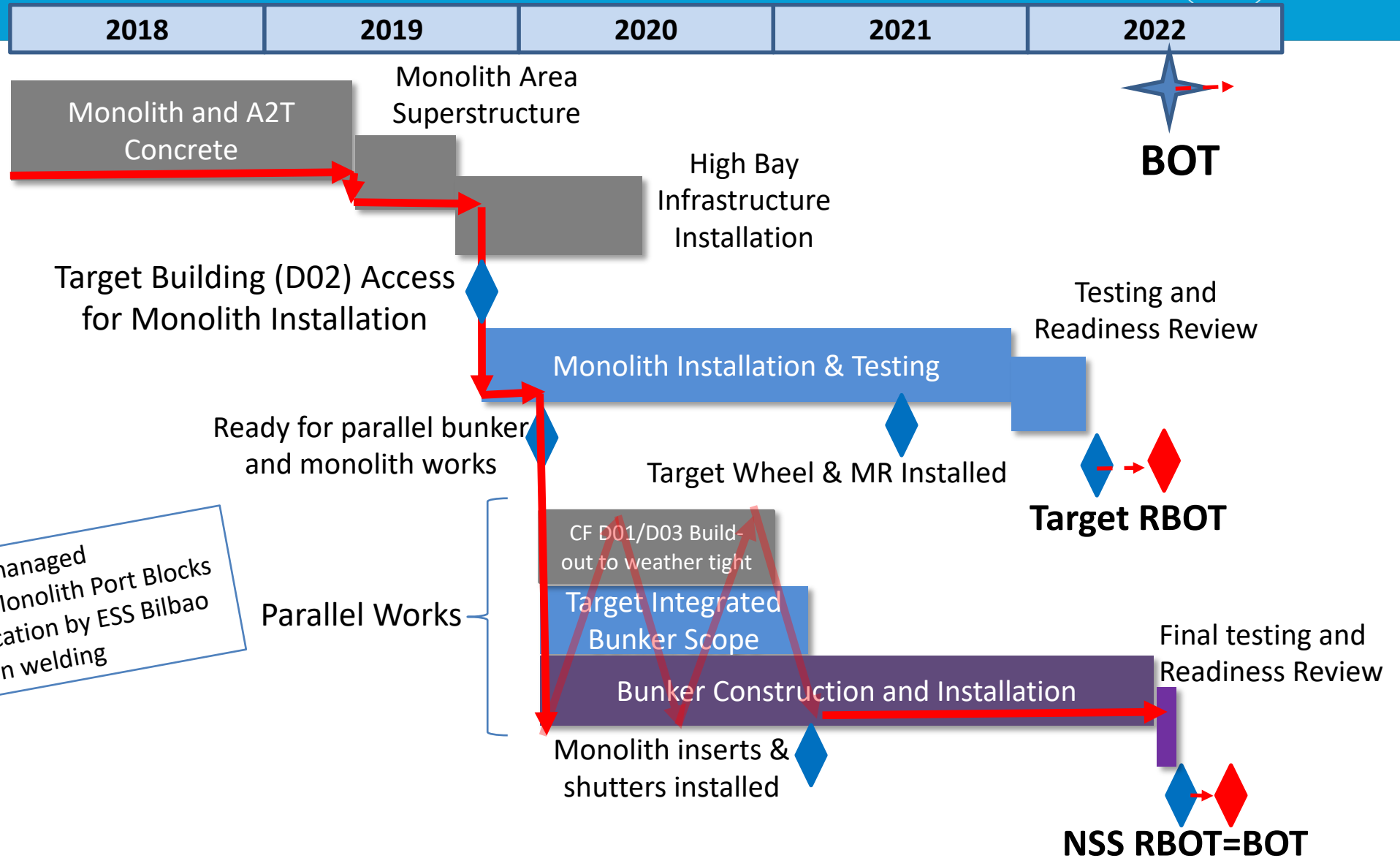
[www.europeanspallationsource.se](http://www.europeanspallationsource.se)

12 Dec 2019

# Summary Schedule and Critical Path for Remaining Work



# Critical Path to Beam on Target (BOT) Milestone Goes Through Target Building, Monolith, and Bunker Construction

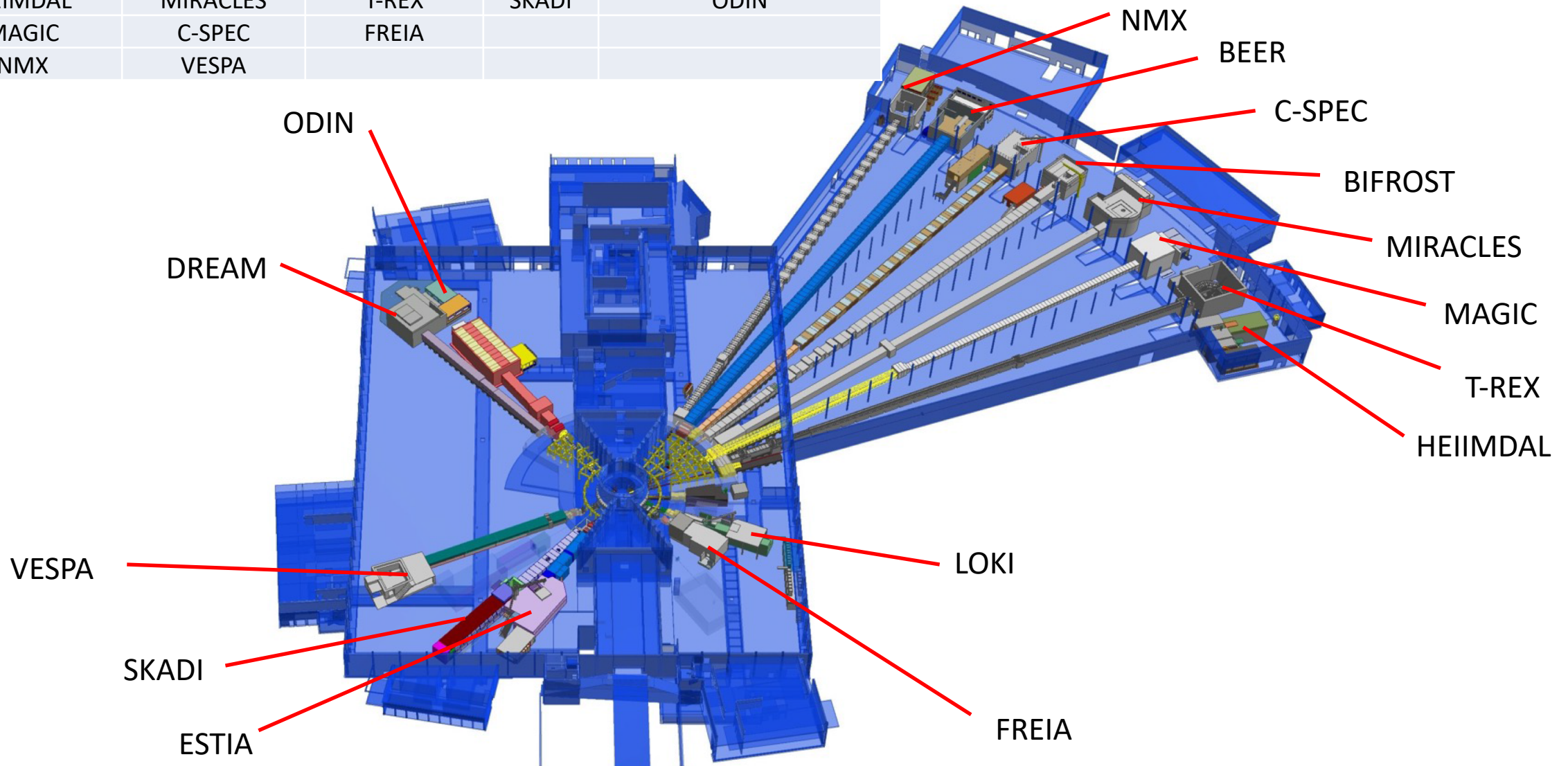


Largest schedule risks are being managed

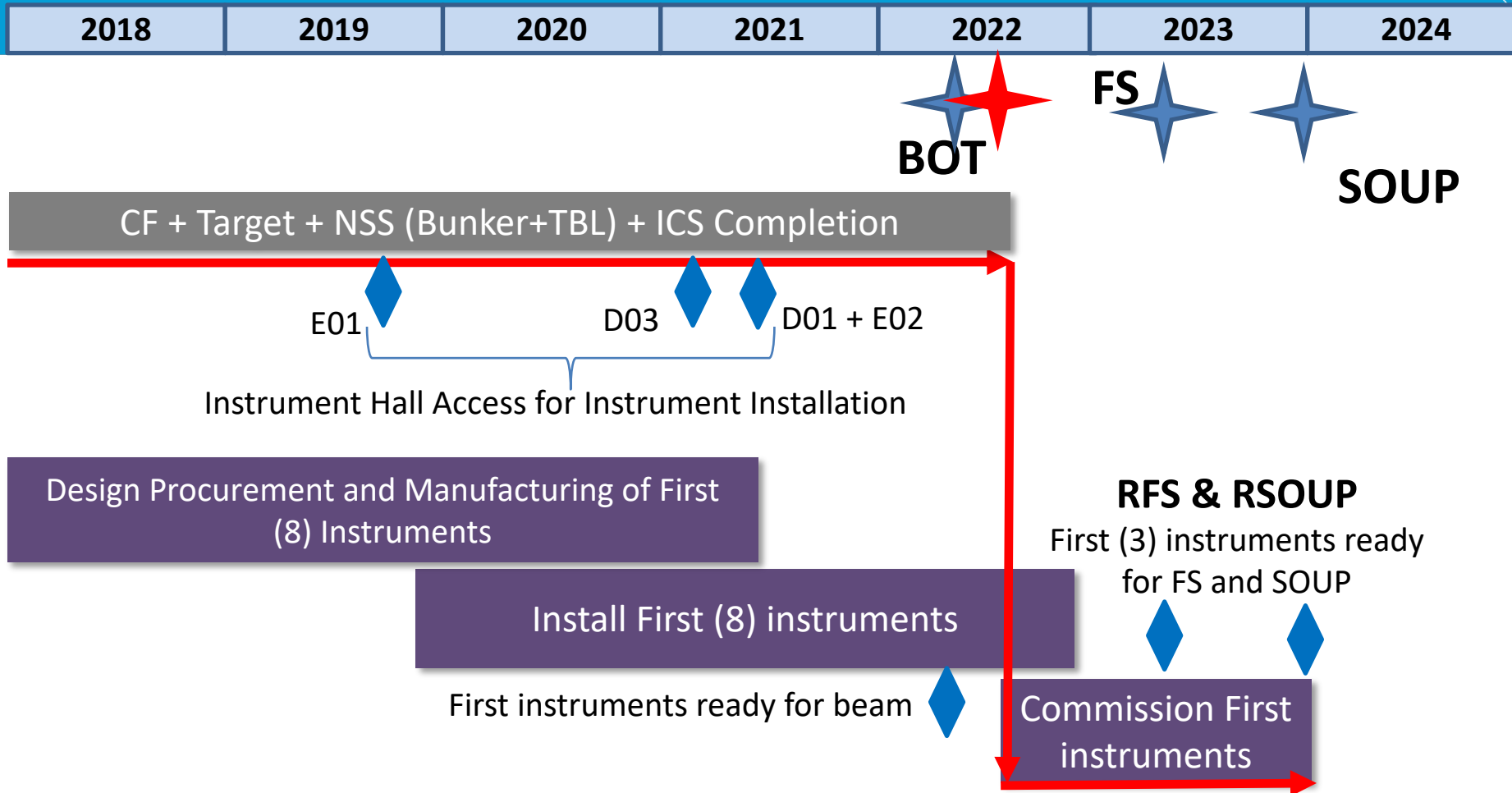
- Manufacturing Delays with Monolith Port Blocks
- Target monolith vessel fabrication by ESS Bilbao
- Port Block to Vessel precision welding

# Fifteen Instrument Layout (In construction scope)

<u>Diffractometers</u>	<u>Spectrometers</u>	<u>Reflectometers</u>	<u>SANS</u>	<u>Engineering &amp; Imaging</u>
DREAM	BIFROST	ESTIA	LOKI	BEER
HEIMDAL	MIRACLES	T-REX	SKADI	ODIN
MAGIC	C-SPEC	FREIA		
NMX	VESPA			



# Critical Path to First Science



*The plans for including IK partners in the installation of instruments is in preparation for all instruments, In total the installation for 11 of the 15 instruments will be led by IK partners, this includes 6 of the first 8 instruments. Selected ODIN, DREAM and LOKI for First Science*

# Equipment Deliveries and Threats to Critical Path

- Critical Path to Target RBOT (March 2022)
  - Monolith Port Blocks (ESS-Lund) due to material problems, surface cracks on Ingots now resolved
  - Monolith inner shielding (ESS-Lund) due to material problems, surface cracks on Ingots now resolved
  - Target wheel (ESS Bilbao) manufacturing challenges, delivery December 2020
  - Monolith Vessel (ESS Bilbao) manufacturing challenges, delivery February 2020
- Critical Path to Accelerator RBOT (December 2021), Accelerator RBOT has 6 months remaining float to BOT
  - RF system for NC Linac – late hardware delivery (circulators, loads and waveguides) ESS Bilbao
  - DTL assembly (Late drift tube deliveries, copper plating tank sections) - INFN
  - Spoke CM delays due to cryoline welds – CNRS/IPNO, Uppsala University/FREIA
  - Cryogenic distribution for spoke Linac – CNRS/IPNO
  - Medium and High Beta CM, coupler problems(assembly, test, conditioning and installation) – CEA, ESS, INFN/LASA, STFC/Daresbury
  - Spoke RF power systems – ELETTRA and INFN
- Critical path to NSS Early science (March 2023)
  - Signed Inkind Agreements for remaining instruments, see next slide